

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number
WO 2004/054005 A1

(51) International Patent Classification⁷: **H01L 31/115**,
27/146, G01T 1/16, 1/24

Apt. 108-303, Yeongcheon-dong, Seodaemoon-ku,
120-768 Seoul (KR).

(21) International Application Number:
PCT/KR2003/002708

(74) Agent: **YOU ME PATENT & LAW FIRM**; Teheran
Bldg., 825-33, Yoksam-dong, Kangnam-ku, Seoul 135-080
(KR).

(22) International Filing Date:
11 December 2003 (11.12.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK,
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,
MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2002-0078745
11 December 2002 (11.12.2002) KR

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,
SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **SAM-
SUNG ELECTRONICS CO., LTD.** [KR/KR]; 416,, Mae-
tan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742
(KR).

Published:

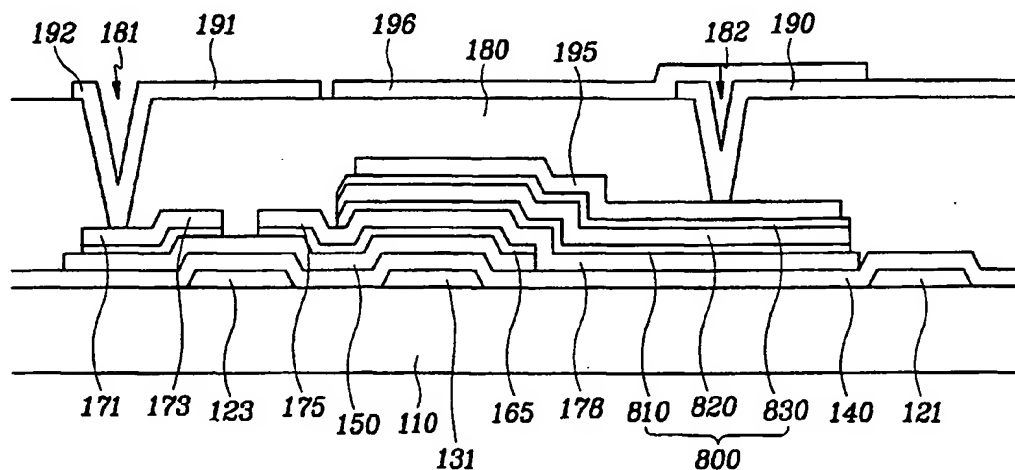
— with international search report

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **JOO, In-Su**
[KR/KR]; Pureun-maeul Ssangyong Apt. 507-802,
Sunae-dong, Bundang-ku, 463-781 Seongnam-city,
Kyungki-do (KR). **CHOI, Joon-Hoo** [KR/KR]; Samho

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: **THIN FILM TRANSISTOR ARRAY PANEL FOR X-RAY DETECTOR**



(57) Abstract: A thin film transistor array panel for an X-ray detector includes a dummy pixel including a photo diode and a TFT for detecting leakage current. The photo diode includes first and second electrodes (178,195) facing each other and a photo-conductive layer (800) disposed between the first electrode and the second electrode. The TFT includes a semiconductor layer (150), a gate electrode (123), a source electrode (173) connected to a data line, a drain electrode (175) connected to the photo diode. The dummy pixel further includes a light blocking layer (196) for blocking light incident on the photo diode. Alternatively, the semiconductor layer is disconnected between the source electrode and the drain electrode.

WO 2004/054005 A1